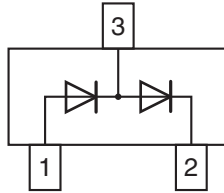




# Dual In-Series Small Signal High Voltage Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching dual in-series diode, especially suited for applications requiring high voltage capability
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

**DESIGN SUPPORT TOOLS** click logo to get started



### MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 8.8 mg

**Packaging codes / options:**

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE				
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
GSD2004S	GSD2004S-E3-08 or GSD2004S-E3-18	Dual serial	DB6	Tape and reel
	GSD2004S-HE3-08 or GSD2004S-HE3-18			

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Continuous reverse voltage		V <sub>R</sub>	240	V
Peak repetitive reverse voltage		V <sub>RRM</sub>	300	V
Forward current (continuous)		I <sub>F</sub>	225	mA
Peak repetitive forward current		I <sub>FRM</sub>	625	mA
Non-repetitive peak forward current	t <sub>p</sub> = 1 μs	I <sub>FSM</sub>	4.0	A
	t <sub>p</sub> = 1 s	I <sub>FSM</sub>	1.0	A
Power dissipation <sup>(1)</sup>		P <sub>tot</sub>	350	mW

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Typical thermal resistance junction to ambient air <sup>(1)</sup>		R <sub>thJA</sub>	357	°C/W
Junction temperature		T <sub>j</sub>	150	°C
Storage temperature range		T <sub>stg</sub>	-65 to +150	°C
Operating temperature range		T <sub>op</sub>	-55 to +150	°C

**Note**

<sup>(1)</sup> Device on fiberglass substrate



ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I <sub>R</sub> = 100 μA	V <sub>BR</sub>	300			V
Leakage current	V <sub>R</sub> = 240 V	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 240 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			100	μA
Forward voltage	I <sub>F</sub> = 20 mA	V <sub>F</sub>		0.83	0.87	V
	I <sub>F</sub> = 100 mA	V <sub>F</sub>			1.00	V
Diode capacitance	V <sub>F</sub> = V <sub>R</sub> = 0, f = 1 MHz	C <sub>D</sub>			5.0	pF
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 30 mA, i <sub>R</sub> = 3.0 mA, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			50	ns

Note

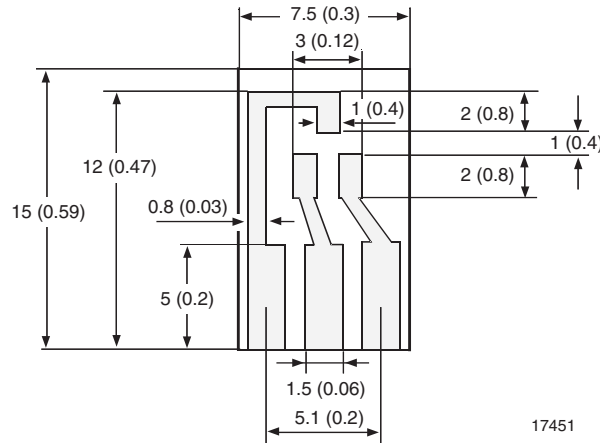
(1) Device on fiberglass substrate

LAYOUT FOR R<sub>thJA</sub> TEST

Thickness:

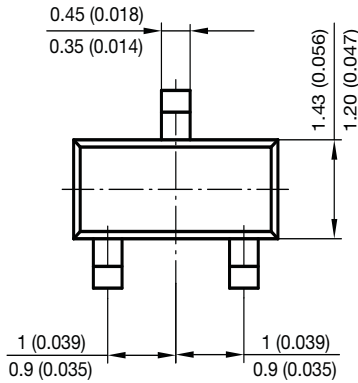
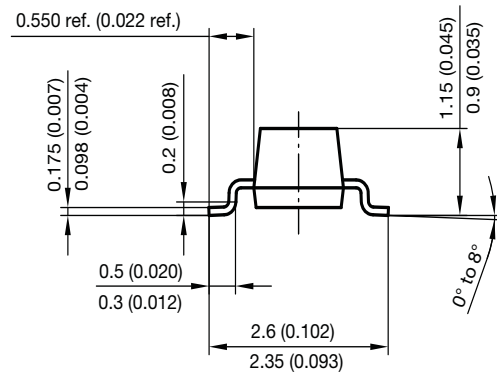
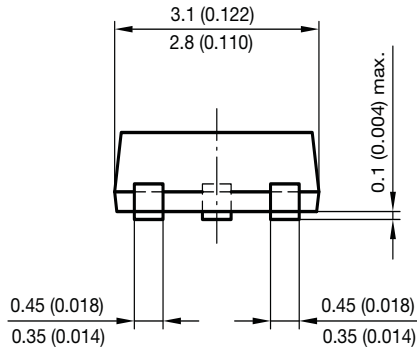
Fiberglass 1.5 mm (0.059 inches)

Copper leads 0.3 mm (0.012 inches)

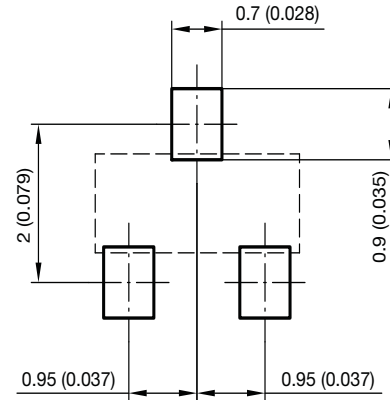




**PACKAGE DIMENSIONS** in millimeters (inches): **SOT-23**



Foot print recommendation:



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17418



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